

**Amendment to the Claims**

1. (currently amended) An electropolishing solution, comprising:  
  
about 75 to about 99 weight percent of an alkylene glycol; and  
  
about 1 to about 25 weight percent of a chloride salt selected from the group consisting of alkali metal chlorides, alkaline earth metal chlorides, and combinations thereof; and  
  
less than or equal to 5 weight percent water.
2. (original) The electropolishing solution of Claim 1, wherein the alkylene glycol is selected from the group consisting of ethylene glycol, 1,2-propylene glycol, 1,3-propylene glycol, glycerol, 1,3-butylene glycol, 1,4-butylene glycol, 2,3-butylene glycol, 1,5-pentanediol, 1,6-hexanediol, 1,8-octanediol, 1,9-nonanediol, 1,10-decanediol, neopentyl glycol, 1,4-cyclohexanedimethanol, 2-methyl-1,3-propanediol, 2,2,4-trimethyl-1,3-pentanediol, diethylene glycol, dipropylene glycol, triethylene glycol, tripropylene glycol, dibutylene glycol, polyethylene glycol, polypropylene glycol, polytetramethylene glycol, and combinations thereof.
3. (original) The electropolishing solution of Claim 1, wherein the alkylene glycol comprises ethylene glycol or propylene glycol.
4. (original) The electropolishing solution of Claim 1, wherein the chloride salt is selected from the group consisting of lithium chloride, sodium chloride, potassium chloride, magnesium chloride, calcium chloride, and combinations thereof.
5. (original) The electropolishing solution of Claim 1, wherein the chloride salt comprises potassium chloride.
6. (cancelled)
7. (original) The electropolishing solution of Claim 1, comprising less than 0.5 weight percent fluoride ion.

8. (currently amended) An electropolishing solution, comprising:

about 75 to about 99 weight percent of ethylene glycol;~~and~~

about 1 to about 25 weight percent of potassium chloride;~~and~~ and

less than or equal to 5 weight percent water.

9. (currently amended) An electropolishing solution, consisting essentially of:

about 75 to about 99 weight percent of ethylene glycol;~~and~~

about 1 to about 25 weight percent of potassium chloride;~~and~~ and

less than or equal to 5 weight percent water.

10. (currently amended) An electropolishing method, comprising:

disposing a metallic substrate and at least one electrode in an electrolyte solution; wherein the electrolyte solution comprises

about 75 to about 99 weight percent of an alkylene glycol;~~and~~

about 1 to about 25 weight percent of a chloride salt selected from the group consisting of alkali metal chlorides, alkaline earth metal chlorides, and combinations thereof; and

less than or equal to 5 weight percent water.

applying a current from a power source between the at least one electrode and the metallic substrate to remove metal from the metallic substrate.

11. (currently amended) The electropolishing method of Claim 10, wherein the current is applied usingat a voltage of about 3 to about 100 volts.

12. (original) The electropolishing method of Claim 10, wherein the current is applied at a current density of about 0.1 to about 20 amperes per square-centimeter.

13. (original) The electropolishing method of Claim 10, wherein the electrolyte solution has a temperature of about 50 to about 200°C.

14. (original) The electropolishing method of Claim 10, wherein metal is removed from the

metallic substrate at a rate of about 1 to 200 micrometers per minute.

15. (withdrawn) A method of recovering an electropolishing solution, comprising:

agitating a spent electropolishing solution comprising

an alkylene glycol,

a chloride salt, and

a metal-containing solid; and

separating the agitated, spent electropolishing solution to yield the metal-containing solid and a solid-depleted solution.

16. (withdrawn) The method of Claim 15, wherein the spent electropolishing solution comprises about 75 to about 98 weight percent of the alkylene glycol.

17. (withdrawn) The method of Claim 15, wherein the spent electropolishing solution comprises about 2 to about 25 weight percent of the chloride salt.

18. (withdrawn) The method of Claim 15, wherein the metal-containing solid comprises a metal selected from the group consisting of aluminum, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, niobium, molybdenum, silver, hafnium, tungsten, platinum, gold, and combinations thereof.

19. (withdrawn) The method of Claim 15, wherein the metal-containing solid comprises titanium.

20. (withdrawn) The method of Claim 15, wherein the metal-containing solid comprises about 10 to about 25 weight percent titanium, about 5 to about 20 weight percent carbon, and about 1 to about 5 weight percent hydrogen, on a dry weight basis.

21. (withdrawn) The method of Claim 15, wherein the metal-containing solid has an average particle size of less than 20 micrometers prior to agitating.

22. (withdrawn) The method of Claim 15, wherein agitating the spent electropolishing solution is conducted at a temperature greater than 100°C.

23. (withdrawn) The method of Claim 15, wherein agitating comprises an input of about

10,000 to about 1,000,000 joules per kilogram of spent electropolishing solution.

24. (withdrawn) The method of Claim 15, wherein agitating comprises sparging with a pressurized gas having a pressure of about 0.01 kg/cm<sup>2</sup> to about 1000 kg/cm<sup>2</sup>.

25. (withdrawn) The method of Claim 24, wherein the pressurized gas comprises air.

26. (withdrawn) The method of Claim 24, further comprising adding water to the spent electropolishing solution in an amount of about 0.001 to about 5 weight percent based upon the total weight of the spent electropolishing solution.

27. (withdrawn) The method of Claim 24, wherein the pressurized gas comprises a water concentration effective to create a water concentration of about 0.001 to about 5 weight percent water in the spent electropolishing solution during agitation.

28. (withdrawn) The method of Claim 15, wherein the metal-containing solid has an average particle size greater than 20 microns after agitating.

29. (withdrawn) The method of Claim 15, further comprising distilling the solid-depleted solution.

30. (withdrawn) A method of recovering an electropolishing solution, comprising:

sparging a spent electropolishing solution with pressurized air, wherein the spent electropolishing solution comprises

about 75 to about 98 weight percent of ethylene glycol,

about 2 to about 25 weight percent of potassium chloride, and

at least 1 weight percent of a titanium-containing solid comprising about 10 to about 25 weight percent titanium, about 5 to about 20 weight percent carbon, and about 1 to about 5 weight percent hydrogen, on a dry weight basis; and

separating the sparged, spent electropolishing solution to yield the titanium-containing solid and a solid-depleted solution.